Instructions for the following series products Standing Seam Roof Anchor

Model Number: 2103675

USER INSTRUCTION MANUAL STANDING SEAM ROOF ANCHOR

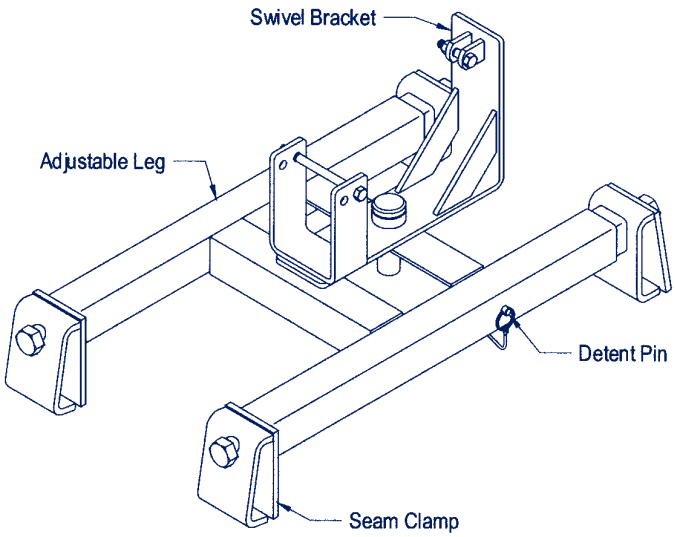
This manual is intended to meet the Manufacturer's Instructions, and should be used as part of an employee training program as required by OSHA.

WARNING: *This product is part of a personal fall arrest system. The user must read and follow the manufacturer's instructions for each component or part of the complete system. These instructions must be provided to the user of this equipment. The user must read and understand these instructions or have them explained to them before using this equipment. Manufacturer's instructions must be followed for proper use and maintenance of this product. Alterations or misuse of this product or failure to follow instructions may result in serious injury or death.*

IMPORTANT: *If you have questions on the use, care, or suitability of this equipment for your application, contact DBI-SALA.*

IMPORTANT: *Record the product identification information from the ID label in the inspection and maintenance log in section 9.0 of this manual.*

Figure 1 - Standing Seam Roof Anchor



1.0 APPLICATIONS

1.1 PURPOSE: The Standing Seam Roof Anchor is designed for use as an anchorage connector for a personal fall arrest system on sloped or flat structural standing seam roofs, with seam spacing of 24, 30, 32, or 36 inches. The Standing Seam Roof Anchor is designed for use with DBI-SALA Ultra-Lok® Self Retracting Lifelines only.

1.2 LIMITATIONS: Consider the following application limitations before using this equipment:

IMPORTANT: *This anchor shall be installed and used under the supervision of a qualified person (see below for definition) as part of a complete personal fall arrest system that maintains a safety factor of at least two.*

QUALIFIED PERSON: An individual with a recognized degree or professional certificate, and extensive knowledge and experience in the subject field, who is capable of design, analysis, evaluation, and specification in the subject work, project, or product. Refer to OSHA 1910.66, 1926.32, and 1926.502.

A. ROOF PANELS: The Standing Seam Roof Anchor must only be used on structural standing seam roof panels that meet the geometric and load requirements specified in section 2.0.

B. CAPACITY: The Standing Seam Roof Anchor is designed for use by persons with a combined weight (clothing, tools, etc.) of no more than 310 lbs. No more than one personal fall arrest system may be connected to this equipment at one time.

C. FREE FALL: Personal fall arrest systems used with this equipment must be rigged to limit the free fall to six feet or less. See the personal fall arrest system manufacturer's instructions for more information.

D. FALL ARREST FORCES: The personal fall arrest system must limit fall arrest forces to 900 lbs.

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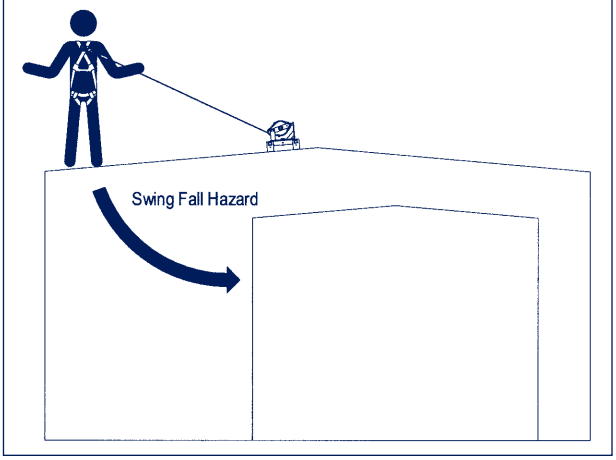
E. FALL CLEARANCE: There must be sufficient clearance below the user to arrest a fall before the user strikes the ground or other obstruction. The clearance required is dependent on the following factors:

- Elevation of the Standing Seam Roof Anchor
- Connecting subsystem length
- Deceleration distance
- Movement of the harness attachment element
- Worker's height
- Free fall distance

See the personal fall arrest system manufacturer's instructions for more information.

Figure 2 - Swing Fall Hazard



F. SWING FALLS: See Figure 2. Swing falls occur when the user is at a location other than in-line with the seams to which the Standing Seam Roof Anchor is attached; or when the user is at a location other than perpendicular with the anchor and the seams to which the Standing Seam Roof Anchor is attached to. The force of striking an object in a swing fall may cause serious injury or death. Minimize swing falls by working as close to the anchorage point as possible. Do not permit a swing fall if injury could occur. Swing falls will significantly increase the clearance required when a self retracting lifeline is used.

G. ENVIRONMENTAL HAZARDS: Use of this equipment in areas with environmental hazards may require additional precautions to prevent injury to the user or damage to the equipment. Hazards may include, but are not limited to; heat, chemicals, corrosive environments, high voltage power lines, gases, moving machinery, and sharp edges. Contact DBI-SALA if you have questions about using this equipment where environmental hazards exist.

H. TRAINING: This equipment must be installed and used by persons trained in its correct application and use. See section 4.0.

1.3 APPLICABLE STANDARDS: Refer to applicable standards, including local, state, and federal requirements for more information on personal fall arrest systems and associated components.

2.0 SYSTEM REQUIREMENTS

2.1 COMPATIBILITY OF COMPONENTS: DBI-SALA equipment is designed for use with DBI-SALA approved components and subsystems only. Substitutions or replacements made with non-approved components or subsystems may jeopardize compatibility of equipment and may effect the safety and reliability of the complete system.

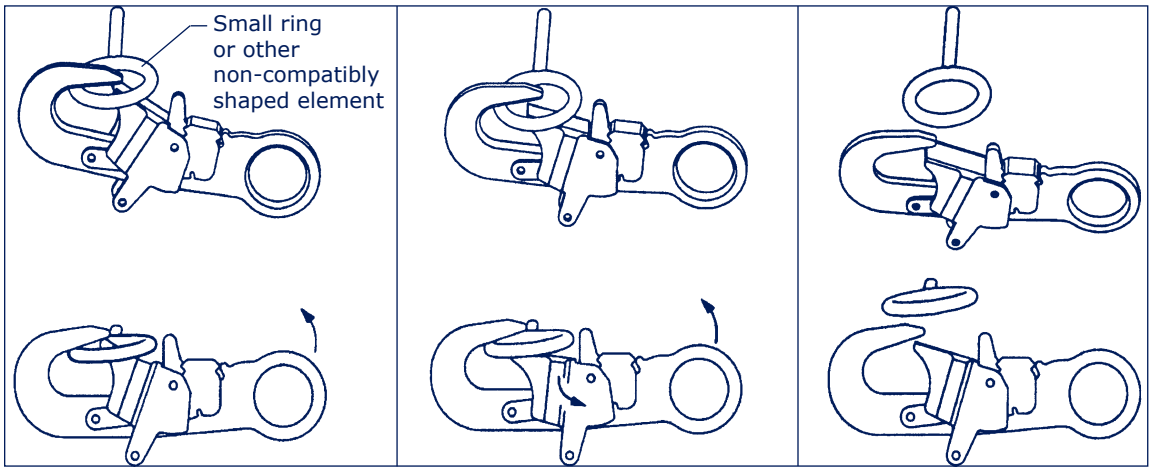
2.2 COMPATIBILITY OF CONNECTORS: Connectors are considered to be compatible with connecting elements when they have been designed to work together in such a way that their sizes and shapes do not cause their gate mechanisms to inadvertently open regardless of how they become oriented. Contact DBI-SALA if you have any questions about compatibility.

Connectors (hooks, carabiners, and D-rings) must be capable of supporting at least 5,000 lbs. (22kN). Connectors must be compatible with the anchorage or other system components. Do not use equipment that is not compatible. Non-compatible connectors may unintentionally disengage. See Figure 3. Connectors must be compatible in size, shape, and strength. Self locking snap hooks and carabiners are required by ANSI Z359.1 and OSHA.

2.3 MAKING CONNECTIONS: Only use self-locking snap hooks and carabiners with this equipment. Only use connectors that are suitable to each application. Ensure all connections are compatible in size, shape and strength. Do not use equipment that is not compatible. Ensure all connectors are fully closed and locked.

FIGURE 3 - UNINTENTIONAL DISENGAGEMENT (ROLL-OUT)

If the connecting element that a snap hook (shown) or carabiner attaches to is undersized or irregular in shape, a situation could occur where the connecting element applies a force to the gate of the snap hook or carabiner. This force may cause the gate (of either a self-locking or a non-locking snap hook) to open, allowing the snap hook or carabiner to disengage from the connecting point.



1. Force is applied to the snap hook.
2. The gate presses against the connecting ring.
3. The gate opens allowing the snap hook to slip off.

DBI-SALA connectors (snap hooks and carabiners) are designed to be used only as specified in each product's user's instructions. See Figure 4 for inappropriate connections. DBI-SALA snap hooks and carabiners should not be connected:

A. To a D-ring to which another connector is attached.

B. In a manner that would result in a load on the gate.

NOTE: *Large throat opening snap hooks should not be connected to standard size D-rings or similar objects which will result in a load on the gate if the hook or D-ring twists or rotates. Large throat snap hooks are designed for use on fixed structural elements such as rebar or cross members that are not shaped in a way that can capture the gate of the hook.*

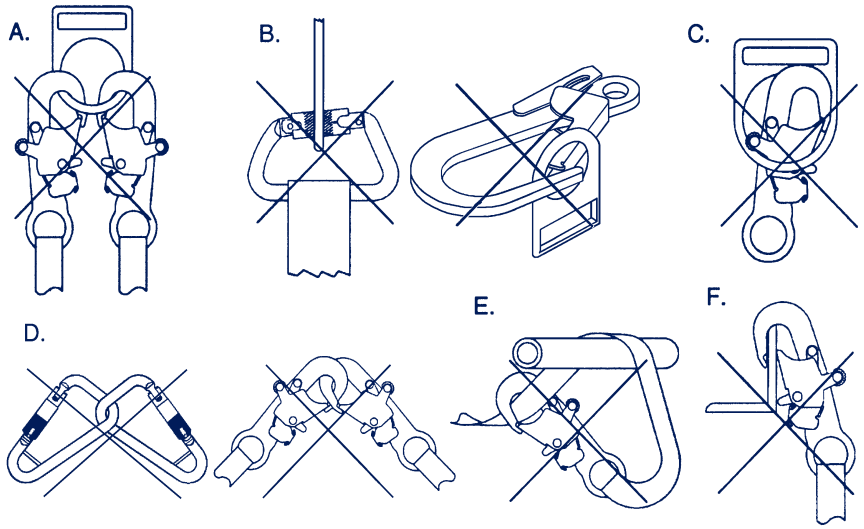
C. In a false engagement, where features that protrude from the snap hook or carabiner catch on the anchor and without visual confirmation seems to be fully engaged to the anchor point.

D. To each other.

E. Directly to webbing or rope lanyard or tie-back (unless the manufacturer's instructions for both the lanyard and connector specifically allows such a connection).

F. To any object which is shaped or dimensioned such that the snap hook or carabiner will not close and lock, or that roll-out could occur.

FIGURE 4 - INAPPROPRIATE CONNECTIONS



2.4 PERSONAL FALL ARREST SYSTEM: Personal fall arrest systems used with this equipment must meet applicable state, federal, and OSHA requirements. A full body harness and DBI-SALA Ultra-Lok Self Retracting Lifeline must be used with the Standing Seam Roof Anchor.

2.5 SEAM REQUIREMENTS: The Standing Seam Roof Anchor must be attached to the seam as shown in Figure 5. The hook side of the seam clamp must hook under the seam for proper attachment.

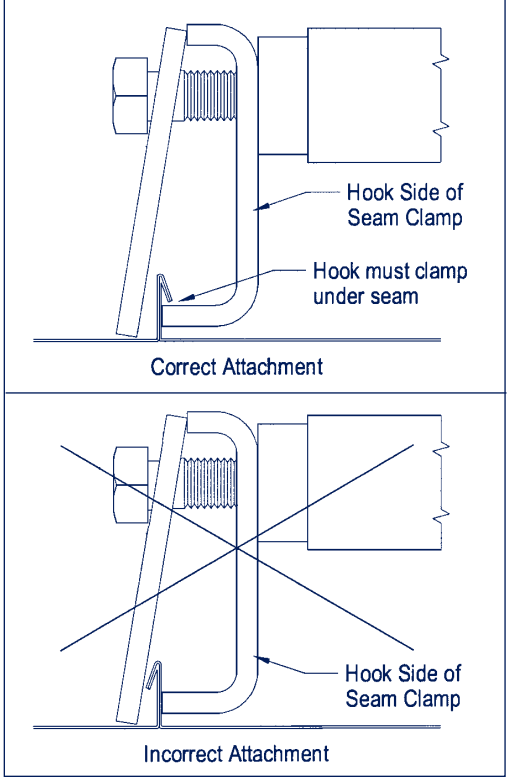
WARNING: *The seam must be compatible with the seam clamp. Do not use the Standing Seam Roof Anchor if you are unable to attach to the seam as shown in Figure 5. Failure to attach the Standing Seam Roof Anchor correctly may result in serious injury or death.*

2.6 ANCHORAGE STRENGTH: From OSHA 1926.500 and 1910.66: Anchorages used for attachment of a personal fall arrest system (PFAS) shall be independent of any anchorage being used to support or suspend platforms, and must support at least 5,000 lbs. per user attached; or be designed, installed, and used as part of a complete PFAS which maintains a safety factor of at least two, and is supervised by a qualified person.

WARNING: *Do not use the Standing Seam Roof Anchor on architectural standing seam roof panels. Architectural roof panels do not have the strength required for fall arrest.*

2.7 MULTIPLE UNITS: When attaching multiple Standing Seam Roof Anchors on one roof follow the guidelines shown in Figure 6. Two or more Standing Seam Roof Anchors must not apply loads to a single panel fastener.

Figure 5 - Attaching to the Seam



3.0 INSTALLATION AND USE

WARNING: *Do not alter or intentionally misuse this equipment. Consult DBI-SALA when using this equipment in combination with components or subsystems other than those described in this manual. Some subsystem and component combinations may interfere with the operation of this equipment. Use caution when using this equipment around moving machinery, electrical hazards, chemical hazards, and sharp edges.*

WARNING: *Consult your doctor if there is reason to doubt your fitness to safely absorb the shock from a fall arrest. Age and fitness seriously affect a worker's ability to withstand falls. Pregnant women and minors must not use this equipment.*

3.1 BEFORE EACH USE OF THIS EQUIPMENT INSPECT ACCORDING TO SECTION 5.0 OF THIS MANUAL.

3.2 PLAN YOUR SYSTEM BEFORE INSTALLATION. CONSIDER ALL FACTORS THAT WILL AFFECT YOUR SAFETY DURING USE OF THIS EQUIPMENT. CONSIDER THE FOLLOWING WHEN PLANNING YOUR SYSTEM:

A. ANCHORAGE: Select an anchorage that meets the requirements specified in sections 2.5 and 2.6.

B. SHARP EDGES: Avoid working where the system components may be in contact with, or abrade against, unprotected sharp edges.

C. RESCUE: The employer must have a rescue plan when using this equipment. The employer must have the ability to perform a rescue quickly and safely.

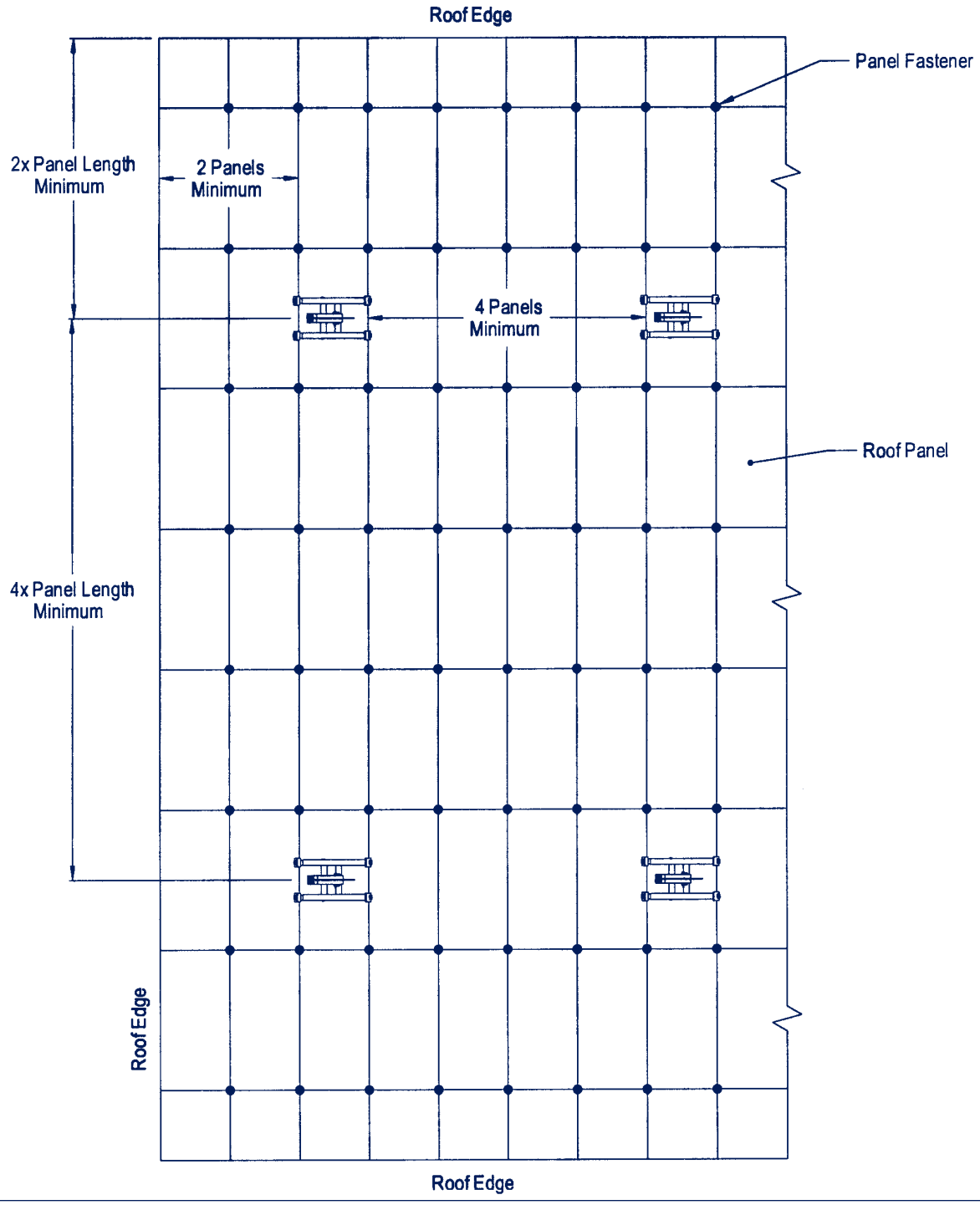
3.3 INSTALLATION:

Step 1. Adjust the legs to the required seam spacing (24, 30, 32 or 36 inches) by removing the detent pins and sliding the two inner legs to the appropriate seam dimension. Reinstall the detent pins. Ensure the detent pins are inserted through the inner and outer leg adjustment holes and are locked into position before use. See Figure 7.

Step 2. Clamp the Standing Seam Roof Anchor to the roof panel seams at four places as shown in Figures 5 and 8. Torque the four seam clamp bolts to 75 ft-lbs.

WARNING: *The seam clamp bolts must be torqued to 75 ft-lbs. to the ensure proper attachment to the roof panel. The seam clamp bolts must be retorqued daily. Failure to properly torque the bolts may result in serious injury or death.*

Figure 6 - Attaching Multiple Standing Seam Roof Anchors



Step 3. Attach the Ultra-Lok® Self Retracting Lifeline to the Swivel Bracket on the Standing Seam Roof Anchor as shown in Figure 9 using the hardware provided. Use the appropriate mounting holes for the self retracting lifeline model.

3.4 USE: Connect the Ultra-Lok® Self Retracting Lifeline to the full body harness according to the self retracting lifeline and the full body harness user instruction manuals. Retorque the seam clamp bolts daily as shown in Figure 8.

WARNING: *Read and follow the user instruction manuals included with the self retracting lifeline and the full body harness.*

Figure 7 - Adjusting Legs

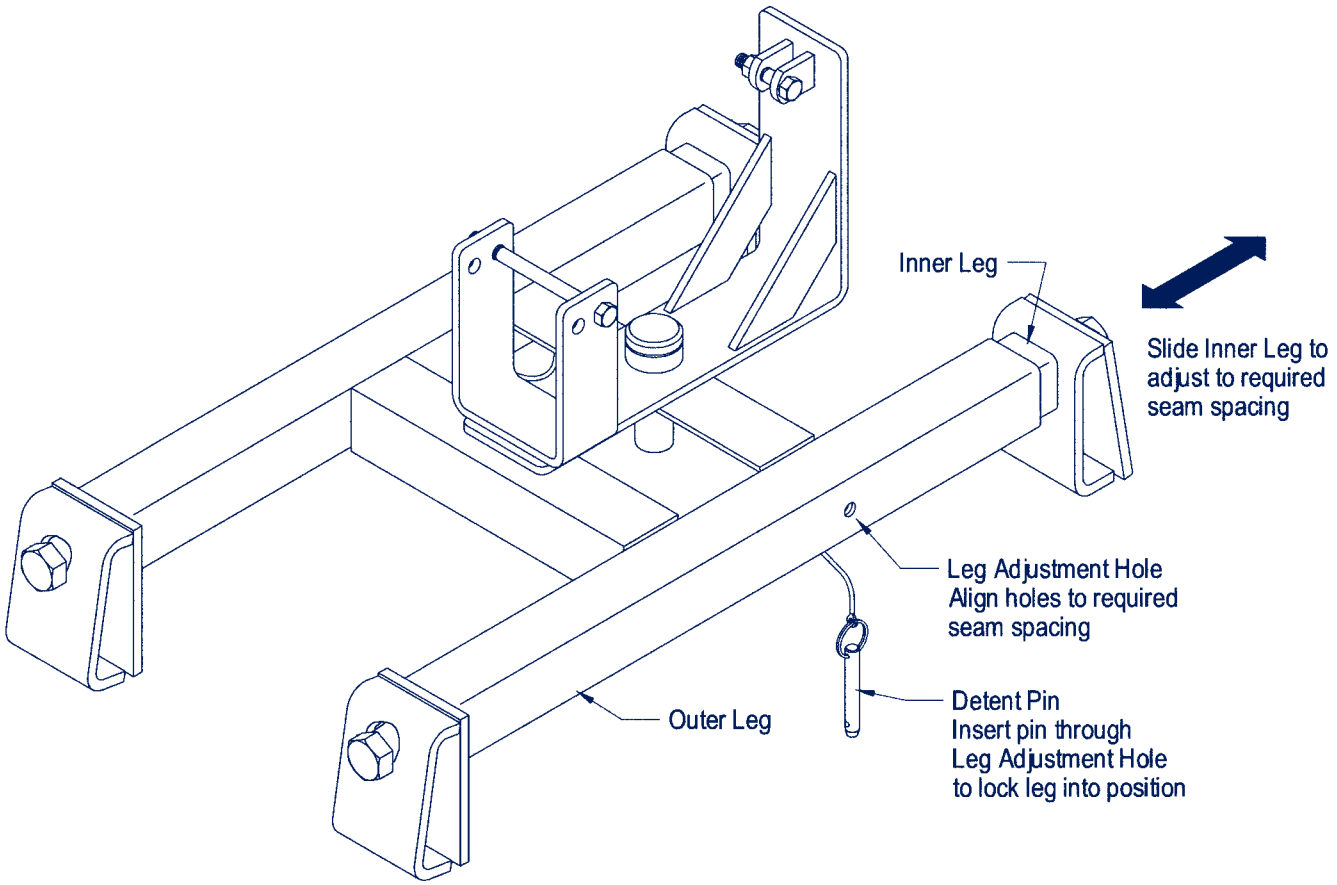


Figure 8 - Clamping Standing Seam Roof Anchor to Roof Panel

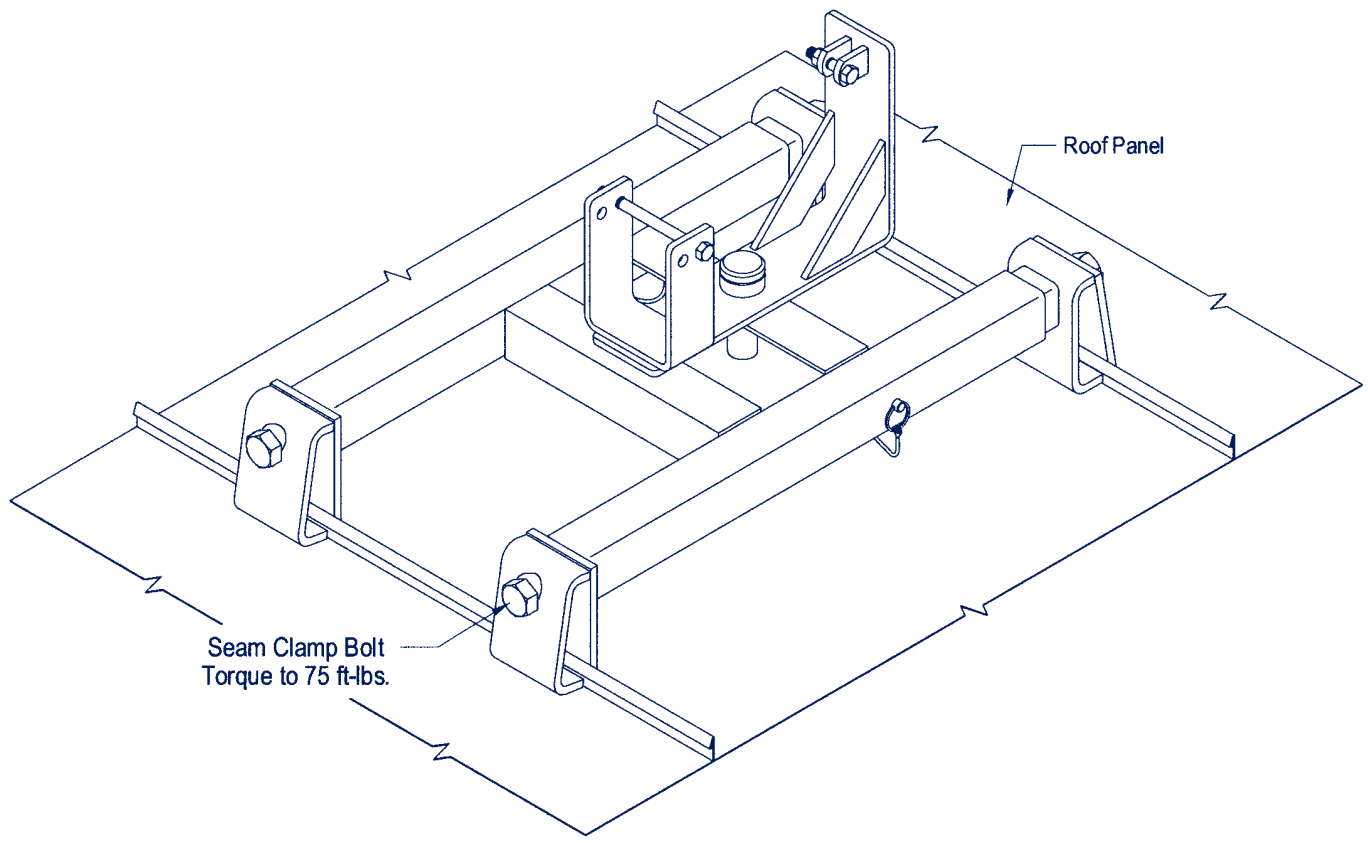
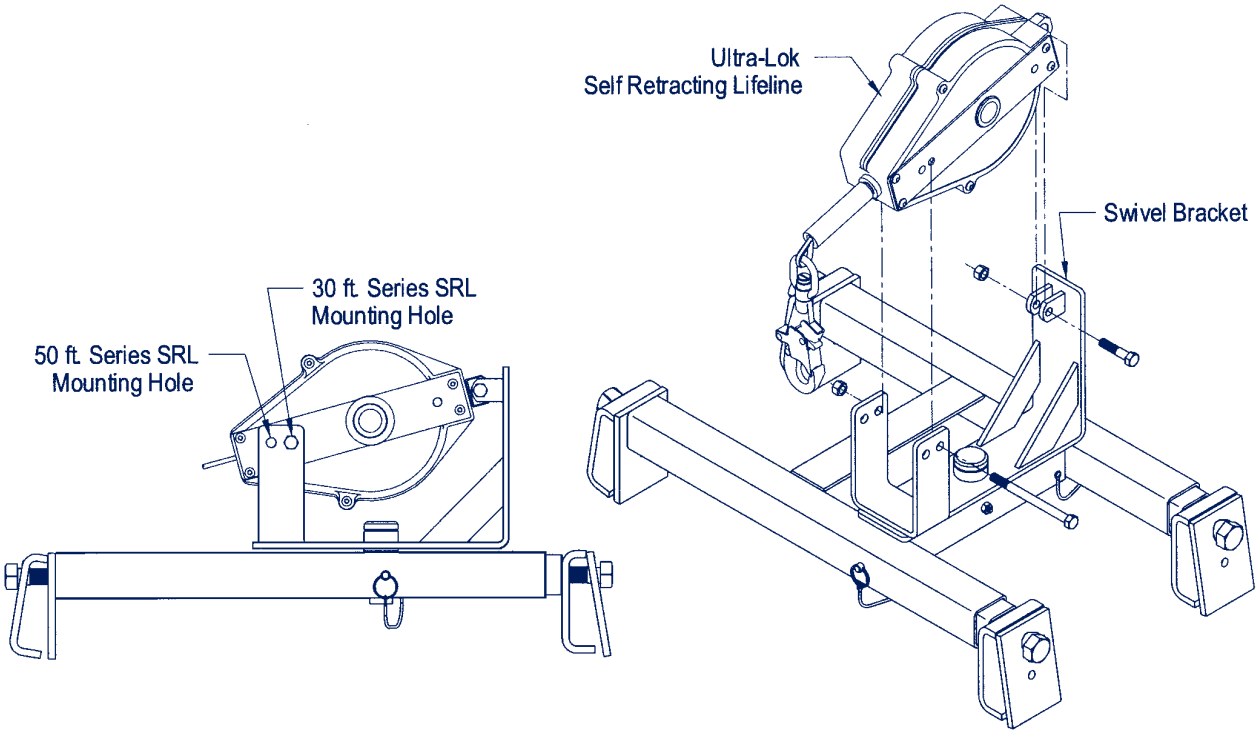


Figure 9 - Attaching Self Retracting Lifeline to Standing Seam Roof Anchor



4.0 TRAINING

4.1 It is the responsibility of all users of this equipment to understand these instructions, and to be trained in the correct installation, use, and maintenance of this equipment. These individuals must be aware of the consequences of improper installation or use of this equipment. This user manual is not a substitute for a comprehensive training program. Training must be provided on a periodic basis to ensure proficiency of the users.

WARNING: *Training must be conducted without exposing the trainee to a fall hazard. Training should be repeated on a periodic basis.*

5.0 INSPECTION

5.1 FREQUENCY:

- **Before Each Use** inspect the Standing Seam Roof Anchor according to sections 5.2 and 5.3. Retorque the seam clamp bolts daily.
- **Formal Inspection:** A formal inspection of the Standing Seam Roof Anchor must be performed at least annually by a competent person other than the user. The frequency of formal inspections should be based on conditions of use or exposure. See sections 5.2 and 5.3. Record the inspection results in the inspection and maintenance log in section 9.0.

WARNING: *If this equipment has been subjected to fall arrest forces remove from service and destroy, or return to an authorized service center for repair.*

5.2 INSPECTION STEPS:

Step 1. Inspect the entire unit for damage or excessive corrosion. Look for cracks or wear that may affect the strength or operation of the unit.

Step 2. Ensure the swivel bracket is free of damage, corrosion, cracks, deformities, or excessive wear. Ensure the self retracting lifeline is securely attached to the swivel bracket. The swivel bracket must swivel 360 degrees.

Step 3. Inspect the inner and outer legs. The legs must not be bent or damaged. The inner legs must slide freely into the outer legs.

Step 4. Inspect the detent pins. The detent pins must not be bent or damaged. The detent pins must securely lock in place.

Step 5. Inspect the seam clamps. The seam clamps must not be bent or damaged.

Step 6. Inspect the self retracting lifeline and the full body harness according to the manufacturer's user instruction manuals.

5.3 If the inspection reveals an unsafe or defective condition, remove the Standing Seam Roof Anchor from service and destroy, or return it to an authorized service center for repair.

IMPORTANT: *Only DBI-SALA or parties authorized in writing may make repairs to this equipment.*

6.0 MAINTENANCE

6.1 CLEAN THE STANDING SEAM ROOF ANCHOR WITH MILD SOAP AND WATER. EXCESSIVE BUILD-UP OF DIRT MAY PREVENT THE SWIVEL BRACKET FROM SWIVELLING.

7.0 SPECIFICATIONS

7.1 MATERIALS:

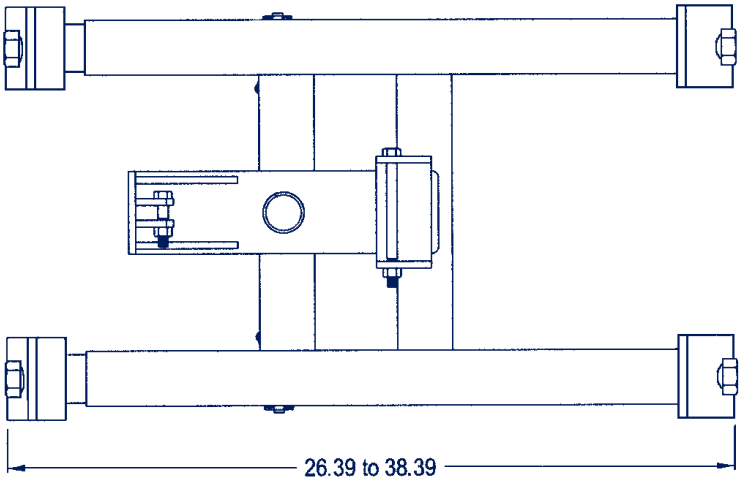
INNER AND OUTER LEGS: Telescopic steel tubing

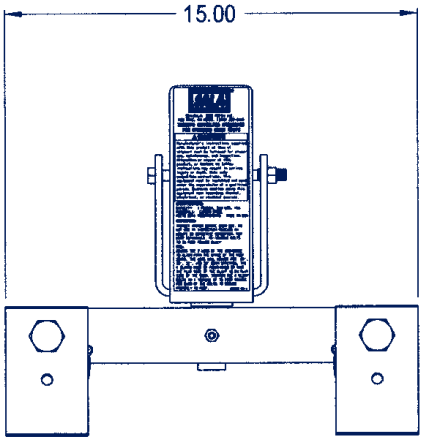
SWIVEL BRACKET: Hot rolled steel

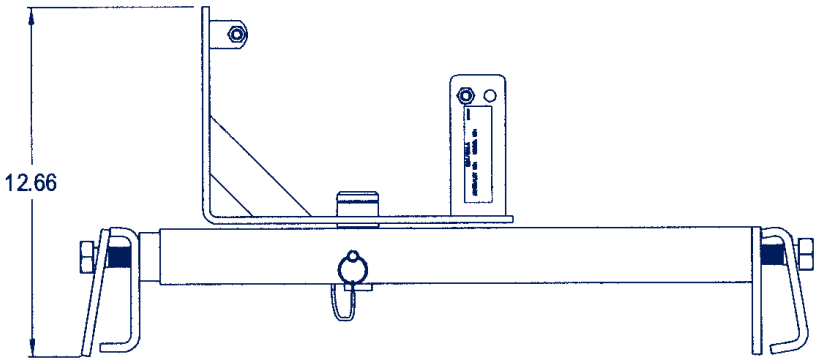
ANGLES: ASTM A36 steel

SEAM CLAMPS: Hot rolled steel

7.2 DIMENSIONS:

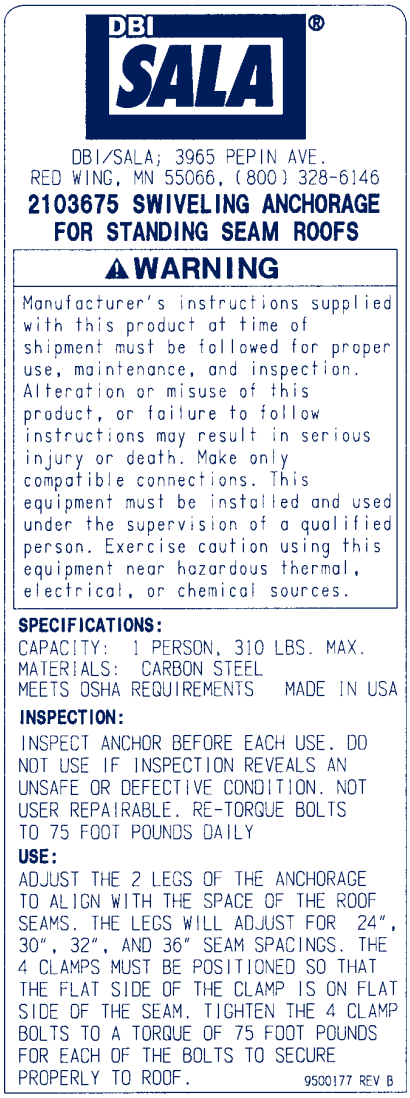






8.0 LABELING

8.1 THESE LABELS MUST BE PRESENT AND FULLY LEGIBLE:



Warning Label

ID Label

9.0 INSPECTION AND MAINTENANCE LOG

DATE OF MANUFACTURE _____

MODEL NUMBER _____

DATE OF PURCHASE _____

INSPECTION DATE	INSPECTION ITEMS NOTED	CORRECTIVE ACTION	MAINTENANCE PERFORMED
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USA
3833 SALA Way
Red Wing, MN 55066-5005
Toll Free: 800-328-6146
Phone: (651) 388-8282
Fax: (651) 388-5065
www.capitalsafety.com

Canada
260 Export Boulevard
Mississauga, Ontario L5S 1Y9
Toll Free: 800-387-7484
Phone: (905) 795-9333
Fax: (905) 795-8777
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